

## Contribution to the knowledge of the family Caecidae.

### 1. A new *Caecum* from Canary Islands (Caenogastropoda: Rissoidae) \*

Mauro PIZZINI

Largo della Caffareletta 6. I-00179 Roma, Italia.

Italo NOFRONI

Via Benedetto Croce 97. I-00142 Roma, Italia.

Marco OLIVERIO

Dipartimento di Biologia Animale e dell'Uomo, Università di Roma "La Sapienza".

Viale dell'Università 32. I-00185 Roma, Italia.

**ABSTRACT.** A very peculiar, new species of the meiobenthic gastropod family Caecidae is described and figured from the Canary Islands: *Caecum lightfootae* n.sp. It is compared with all the known congeneric species from this area.

**KEYWORDS:** *Caecum*, new species, meiobenthic, North-East Atlantic, Recent, marine.

#### INTRODUCTION

The Caecidae are a worldwide distributed family of rissoidan gastropods with secondary uncoiled teleoconch, adapted to the meiobenthic life. Despite a good deal of efforts, past and recents, to the study of their taxonomy (see i.e. DE FOLIN 1867-1876, 1867, 1875, 1880; CARPENTER 1858-1859; MOORE 1962; VAN AARTSEN 1977; LIGHTFOOT 1992a, b, c, 1993a, b), Caecidae are still one of the less-known prosobranch family. The use of classical morphology in their taxonomy is often hampered by the difficulty in individuating good characters in their simple, unusual tube-like shells. Even worse is the situation as for their supraspecific classification. Anatomical data-sets are still poor and insufficient to create a good phylogenetic scheme of the family.

A revision of the North-East Atlantic members of the family, presently in progress by the authors, is revealing some important novelties as for their taxonomy. Preliminary to this revision, some still undescribed species need to be presented.

Working on some samples from the Canary Islands, a very peculiar species of *Caecum* was sorted out. It is a new species, different from all the other species known from that area.

#### SYSTEMATICS

Superfamily RISSOIDEA

Gray J.E., 1847

Family CAECIDAE Gray M.E., 1850

Genus *Caecum* Fleming, 1813

*Caecum lightfootae* n. sp.

**DESCRIPTION** (holotype's measurements between parentheses )

Teleoconch uncoiled, tube-like. Shell very small for the genus, semitransparent, glossy. Tube very curved, regularly bent, slightly subconical for one third of the length (on the septum side), then nearly cylindrical for the rest (Figs. 1, 2). Surface seemingly smooth, with a microsculpture of only thin and irregular growth lines. Aperture regularly circular, with a more or less pronounced varix, always present (Fig. 3). Septum not retracted, with the lateral outline subtriangular and blunt. Mucro protruding, and right-handed when observed frontally (Figs. 4, 5). Protoconch and growth stages not identified amidst the available material. Shell whitish, with irregular

\* Work partly supported by CNR (Comitato Ambiente) funds.

wax-vitreous areas. Operculum thin, corneous, yellow-brownish; external surface with 4-5 concentric ridges, the central and the outer part smooth. Soft parts not studied at present. Dimensions: length 1.15-1.30 mm (1.23); tube diameter at the septum level 0.24-0.26 mm (0.25); tube diameter at the aperture 0.34-0.36 mm (0.35).

**Material examined:** Punta Blanca, Puerto Santiago (Is. Tenerife, Canary Islands) - 30 m. M. Oliverio leg. 12-IX-1992: 28 shells. Arigana (Is. Gran Canaria, Canary Islands) - 1 m. F. Gubbioli leg.: 1 specimen.

The type material, all from the type locality, has the following location:

Holotype and one paratype Museo Civico di Zoologia, Roma

2 paratypes Laboratorio di Malacologia, Università di Bologna

2 paratypes Muséum National d'Histoire Naturelle, Paris

2 paratypes Natural History Museum, London

2 paratypes Florida Museum Natural History, Gainesville

2 paratypes Australian Museum, Sydney

2 paratypes Swedish Museum of Natural History, Stockholm

2 paratypes Museo Insular Ciencias Naturales, Sta Cruz de Tenerife

Other paratypes are stored in the private collection of M. Pizzini (2), I. Nofroni (2), M. Oliverio (2), C. Schander (2), L. Tringali (2), G. Ambrosiano (1), F. Gubbioli (1).

**Type locality.** Punta Blanca, Puerto Santiago, Is. Tenerife, Canary Islands (Spain). At present the species is known only from Canary Islands, Is. Tenerife and Is. Gran Canaria.

**Etymology.** The species is dedicated to a very keen american malacologist: the late Mrs. Joanne Lightfoot, known to the specialists of this family for her studies on the Caecidae of North America. The first author had the possibility to appreciate her scientific and human endowments, during a short but intense mail correspondence.

**Discussion.** Although the morphological features of *C. lightfootae* are so peculiar to render it unic and easily separable from any other Canaric Caecidae, we prefer to compare it with all the other species known from this area.

NORDSIECK & TALAVERA (1979: 84) recorded only five *Caecum* species from the Canary Islands: *C. atlantis* Watson, 1897, *C.*

*trachea* (Montagu, 1805), *C. glabrum* (Montagu, 1803), *C. vitreum* Carpenter, 1858 and *C. elegantissimum* Carpenter, 1858. Evidently, they skipped *C. clarkii* Carpenter, 1858, though its type locality was just Is. Tenerife. To this list a seventh species should be added, namely *C. armoricum* DE FOLIN, 1869 recently recorded by HOEKSEMA & SEGERS (1993: 86) for the Canary Islands (Gran Canaria).

*C. lightfootae* has a septum similar to that of *C. clarkii* and *C. vitreum*. It differs by its smaller size, by the lack of a longitudinal sculpture more (*clarkii*) or less (*vitreum*) evident, by the presence of the annular varix at the aperture, and finally by its pronounced curvature.

*C. glabrum* and *C. armoricum* are easily separable from the new species by a different septum (dome-shaped in the first, and nail-shaped in the second), and by their lack of an apertural varix.

*C. atlantis*, *C. trachea* and *C. elegantissimum* are completely different and unrelated species, with an evident annular sculpture, completely absent in *C. lightfootae*.

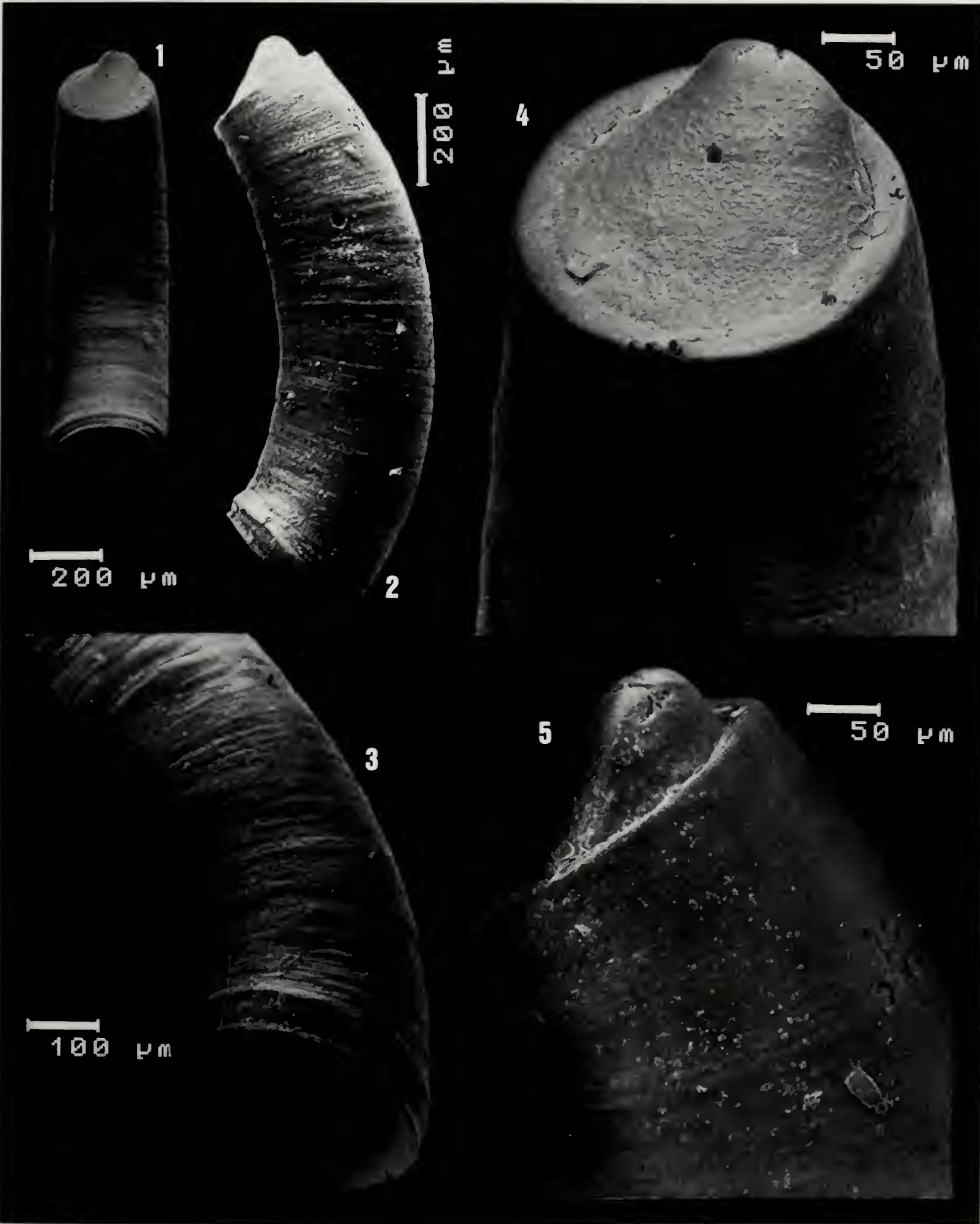
A further european species, namely *C. auriculatum* De Folin, 1868 (whose type series we have studied), needs a brief comparison, although it is not recorded for the Canary Islands. Its septum is nearly hemispheric, with a mucro hear-like, usually right-handed; the colour is uniformly white vitreous. Finally, *C. auriculatum* is more curved, has a larger mean size, and the apertural varix is more evident than in *C. lightfootae*.

**Acknowledgements.** We are grateful to Dr. Christoffer Schander (University of Göteborg, Sweden) for the numerous (too much!) SEM pictures he realized for us.

#### Figs. 1-5 (opposite).

*Caecum lightfootae* n.sp. holotype. Is. Tenerife.

1. General view (frontal).
2. General view (lateral).
3. Aperture.
4. Apex (frontal view).
5. Apex (lateral view).



## REFERENCES

- AARTSEN J.J. VAN, 1977. Revision of the East Atlantic and Mediterranean Caecidae. *Basteria* 41: 7-19.
- CARPENTER P.P., 1858-1859. First steps towards a Monograph of the Caecidae, a family of Rostriferous Gasteropoda. *Proc. Zool. Soc. London* (1858): 413-432 [1958], 433-444 [1859].
- DE FOLIN L., 1867-1876. *Les fonds de la mer*. Paris, vol.1: 326 pp. 36 pls + pl 21 bis; vol.2: 365 pp, 11 pls.
- DE FOLIN L., 1867. Descriptions d'espèces nouvelles de Caecidae. *J. Conch.*, Paris, 15: 44-58.
- DE FOLIN L., 1875. *Monographie de la famille Caecidae*. Bayon, 31 pp, 1 pl.
- DE FOLIN L., 1880. On the Mollusca of the H.M.S. "Challenger" Expedition - The Caecidae, comprising the Genera *Parastrophia*, *Watsonia* and *Caecum*. *Proc. Zool. Soc. London* (1879): 806-812.
- HOEKSEMA D.F. & SEGERS W., 1993. On the systematics and distributions of the marine gastropod *Caecum armoricum* De Folin, 1869 (Prosobranchia, Caecidae). *Gloria Maris* 31(6): 79-88.
- LIGHTFOOT J., 1992a. Caecidae of the Western Atlantic. Part one. *Of Sea and Shore* 14: 13-26.
- LIGHTFOOT J., 1992b. Caecidae of the Western Atlantic. Part two. *Of Sea and Shore* 15: 23-31.
- LIGHTFOOT J., 1992c. Hawaiian Caecidae. *Hawaiian Shell News*, 50 (7): 3-5.
- LIGHTFOOT J., 1993a. Caecidae of the Panamic Province. Part one. *Of Sea and Shore* 16: 1-13.
- LIGHTFOOT J., 1993b. Caecidae of the Panamic Province. Part two. *Of Sea and Shore* 16: 75-87.
- MOORE D.R., 1962. The systematic position of the Family Caecidae (Mollusca: Gastropoda). *Bull. Mar. Sci. Gulf Caribb.*, 12 (4): 695-701.
- NORDSIECK F. & TALAVERA F.G., 1979. *Moluscos marinos de Canarias y Madeira (Gastropoda)*. Aula de Cultura de Tenerife, 208 pp. lam. XLVI.